

=> d his ful

(FILE 'HOME' ENTERED AT 10:12:33 ON 21 JUL 2004)

FILE 'HCAPLUS' ENTERED AT 10:13:17 ON 21 JUL 2004

E WATSON TOMMY STANLEY/AU

L1 6 SEA ABB=ON "WATSON TOMMY STANLEY"/AU

E WATSON BRENDA F/AU

L2 7 SEA ABB=ON "WATSON BRENDA F"/AU

L3 6 SEA ABB=ON L1 AND L2

L4 ANALYZE L3 3 CT : 3 TERMS

FILE 'REGISTRY' ENTERED AT 10:30:23 ON 21 JUL 2004

E FLAXSEED OIL/CN

L5 1 SEA ABB=ON "FLAXSEED OIL"/CN

E LINSEED OIL/CN

L6 1 SEA ABB=ON "LINSEED OIL"/CN

L7 1 SEA ABB=ON L5 OR L6

E LIPASE/CN

L8 1 SEA ABB=ON LIPASE/CN

FILE 'HCAPLUS' ENTERED AT 10:31:28 ON 21 JUL 2004

L9 19400 SEA ABB=ON (L7 OR (?FLAXSEED? OR ?LINSEED?)(W)OIL?)

L10 143 SEA ABB=ON L9 AND (L8 OR ?LIPASE?)

L11 22 SEA ABB=ON L10 AND (?DIET? OR ?FOOD?(W)?SUPP?) *22 cit's from Cx Plus*

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, AGRICOLA, CABA, CROPB, CROPR, CROPU, FSTA, FROSTI, LIFESCI' ENTERED AT 10:32:59 ON 21 JUL 2004

L12 40 SEA ABB=ON L11

L13 17 DUP REMOV L12 (23 DUPLICATES REMOVED) *17 cit's from other database*

=> d que stat l11

L5 1 SEA FILE=REGISTRY ABB=ON "FLAXSEED OIL"/CN
 L6 1 SEA FILE=REGISTRY ABB=ON "LINSEED OIL"/CN
 L7 1 SEA FILE=REGISTRY ABB=ON L5 OR L6
 L8 1 SEA FILE=REGISTRY ABB=ON LIPASE/CN
 L9 19400 SEA FILE=HCAPLUS ABB=ON (L7 OR (?FLAXSEED? OR ?LINSEED?) (W)OIL
 ?)
 L10 143 SEA FILE=HCAPLUS ABB=ON L9 AND (L8 OR ?LIPASE?)
 L11 22 SEA FILE=HCAPLUS ABB=ON L10 AND (?DIET? OR ?FOOD?(W)?SUPP?)

=> d ibib abs l11 1-22

L11 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:610469 HCAPLUS

DOCUMENT NUMBER: 139:148820

TITLE: Fractionation of phytosterol esters in edible oil for food use

INVENTOR(S): Gako-Golan, Einav; Basheer, Sobhi; Plat, Dorit; Ben-Dror, Gai; Farkash, Orly; Hotam, Elzaphan

PATENT ASSIGNEE(S): Enzymotec Ltd., Israel; Goldshmit, Zohar

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003064444	A1	20030807	WO 2003-IL81	20030130
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: IL 2002-147942 A 20020131

AB A composition comprises at least one diglyceride and at least one phytosterol and/or phytostanol ester dissolved or dispersed in an edible oil and/or edible fat, and further optionally comprising monoglycerides. Phytosterol esters may be beta-sitosterol, campesterol, stigmasterol and brassicasterol esters. Phytostanol esters may be stigmastanol, campestanol and sitostanol. The phytosterol and/or phytostanol esters are preferably esters of C14-C22, preferably C16-C18 saturated or unsatd. fatty acids, particularly oleic, linoleic, linolenic, palmitic and stearic acids. The diglyceride(s) are preferably 1,3-di-fatty acid glycerol(s). The invention also provides a process for preparing compns. enriched with triglyceride(s) and phytosterol and/or phytostanol esters of mainly unsatd. fatty acid(s) or of mainly saturated fatty acid(s). The invention also relates to **dietary food supplements** and alimentary products comprising the composition of the invention.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:511867 HCAPLUS

DOCUMENT NUMBER: 139:35641

TITLE: Food supplement containing
flaxseed oil and lipase
INVENTOR(S): Watson, Tommy Stanley; Watson, Brenda F.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 2 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003124240	A1	20030703	US 2001-34551	20011228
PRIORITY APPLN. INFO.:			US 2001-34551	20011228

AB A food supplement formulation containing ω -3 fatty acids consists of **flaxseed oil plus lipase**.
Thus, the formulation may include 99.5% **flaxseed oil** and 0.5% **lipase**.

L11 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:922003 HCAPLUS

DOCUMENT NUMBER: 137:363100

TITLE: Determining the effect of compounds on the ability of a subject to control their weight and compositions to reduce the effect of such compounds
INVENTOR(S): Buchanan-Baillie-Hamilton, Paula Frances; Peck, Julian Claude

PATENT ASSIGNEE(S): UK

SOURCE: Brit. UK Pat. Appl., 89 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2370504	A1	20020703	GB 2001-17052	20010712
PRIORITY APPLN. INFO.:			GB 2000-19327 A	20000808

AB A method of determining the extent of the effect of a target compound on the ability of a test subject to control their weight. The method comprises the steps of determining the degree or severity by which the compound affects each of a plurality of weight controlling systems present in the subject, determining the persistence of the compound in the subject and calculating the effect as a function of these values. The effect of target compds. including pesticides, environmental pollutants, organic solvents and heavy metals may be determined. Weight controlling systems that may be considered include the hormonal system, metabolism and muscular activity. A method of determining the effect of an item on the ability of a subject to control their weight comprises determining the amount in the item of a plurality of target compds. which effect the ability of the subject to control their weight. A method of determining the extent to which a subject has had their ability to control their weight inhibited comprises determining the amount in the subject of a plurality of compds. which have an effect on the ability of the subject to control their weight. Compns. to reduce the effect of one or more target compds. present in a subject which effect the ability of the subject to control their weight comprise one or more micronutrients or target compound absorbants which reduce the level of and/or counteract the effect of the target compds. The compns. may be used in the treatment of obesity.

L11 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:512948 HCAPLUS
DOCUMENT NUMBER: 137:168842
TITLE: Lipoprotein **lipase** mRNA expression in abdominal adipose tissue is little modified by age and nutritional state in broiler chickens
AUTHOR(S): Sato, K.; Akiba, Y.
CORPORATE SOURCE: Animal Nutrition, Graduate School of Agriculture, Tohoku University, Sendai-shi, 981-8555, Japan
SOURCE: Poultry Science (2002), 81(6), 846-852
CODEN: POSCAL; ISSN: 0032-5791
PUBLISHER: Poultry Science Association, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lipoprotein **lipase** (LPL)-catalyzed hydrolysis of plasma lipoproteins is a rate-limiting step in the transport of lipids into the peripheral tissues of broiler chickens. The aim of the present study was to investigate whether LPL mRNA expression in adipose tissue is affected by age or nutritional treatments, with a view to reducing fat accumulation in broiler chickens. The study found that chicken LPL mRNA expression in abdominal adipose tissue did not differ significantly between chickens aged 4, 6, and 8 wk, but there was less expression of LPL mRNA in 2-wk-old chickens. In nutritional modulation, LPL mRNA levels in abdominal adipose tissues were not modified by 48-h feed deprivation or by subsequent refeeding for 48 h. In addition, expression of LPL mRNA was not significantly altered in chickens fed for 7 d on **diets** containing 8% olive oil (triolein rich), safflower oil (trilinolein rich), or **linseed oil** (trilinolenin rich). On the other hand, adipose LPL mRNA expression in chickens force-fed for 12 h with a trilinolenin (18:3) emulsion after 48-h feed deprivation was significantly decreased when compared to that in chickens force-fed with a triolein (18:1) or trilinolein (18:2) emulsion. Changes to LPL immunoreactive protein levels in chicken abdominal adipose tissues brought about by aging and nutritional manipulations were similar to those observed in relation to mRNA expression. These findings suggest that LPL mRNA expression in growing chickens is less responsive to aging and nutritional manipulation than in mammals, thereby indicating specificity of physiol. response on broiler chicken LPL.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:33709 HCAPLUS
DOCUMENT NUMBER: 136:231533
TITLE: Reactive extraction of oilseeds with dialkyl carbonates
AUTHOR(S): Rusch gen. Klaas, Mark; Warwel, Siegfried
CORPORATE SOURCE: Department of Technology, Neubrandenburg University of Applied Sciences, Neubrandenburg, D-17033, Germany
SOURCE: European Journal of Lipid Science and Technology (2001), 103(12), 810-814
CODEN: EJLTFM; ISSN: 1438-7697
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Reactive extraction was carried out in a standard Soxhlet apparatus with rapeseed, linseed and calendula seed as the raw materials and with di-Me and di-Et carbonate as extraction solvent and transesterification reagent at the same time. Fatty acid Me esters and Et esters resp. were obtained with higher yields than those achieved by conventional two step extraction/transesterification. In the case of linseed fatty acid esters and especially calendula seed fatty acid esters, the iodine values of the products obtained by one-pot-two-step reactive extraction were significantly higher.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:623454 HCAPLUS

DOCUMENT NUMBER: 135:330898

TITLE: Effects of **dietary** α -linolenic acid-rich diacylglycerol on body fat in man (1): Lowering effect on body fat

AUTHOR(S): Takei, Akira; Katsuragi, Yoshihisa; Abe, Chiaki; Mori, Kenta; Takeda, Yoko; Seo, Yoko; Takase, Hideto; Takahashi, Hidekazu; Tohata, Masatoshi; Chikama, Akirou; Fumoto, Shinichi; Meguro, Shinichi; Komine, Yumiko; Nagao, Tomonori; Hase, Tadashi; Tokimitsu, Ichiro; Shimasaki, Hiroyuki; Itakura, Hiroshige
CORPORATE SOURCE: Health Care Products Research Laboratories, Kao Corporation, Tokyo, 131-8501, Japan

SOURCE: Journal of Oleo Science (2001), 50(9), 735-746

CODEN: JOSOAP; ISSN: 1345-8957

PUBLISHER: Japan Oil Chemists' Society

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB The effects of **dietary** diacylglycerol rich in α -linolenic acid (ALA-DAG) on body fat content were studied in humans. The ALA-DAG contained 49% α -linolenic acid and was prepared from **linseed oil** using immobilized **lipase**. The study consisted of 2 types of **dietary** restriction and 2 types of **diet**. In Experiment 1, 2.5-3.75 g ALA-DAG was ingested daily by 66 subjects as an edible oil under restriction on the amount of total oil intake (50 \pm 5 g/day) for 12 wk. In Expts. 2 and 3, 2.5 g ALA-DAG was ingested as a drink daily for 16 wk under caloric intake restriction based on the subject caloric requirements (48 and 30 subjects, resp.). In all Expts., after a 4-wk control **diet** period, the subjects started the ALA-DAG **diets**. Every 4 wk during the study, blood indexes of fat metabolism and body indexes (body weight, waist circumference, skinfold thickness, tomog. body fat content) were determined. Subjects ingesting **diets** with 2.5 g ALA-DAG had 6.3-13.4% decreased body fat tomog. area. The **dietary** ALA-DAG had two-fold character as diacylglycerol and n-3 polyunsatd. fatty acid and was highly effective in small doses. ALA-DAG improved fat metabolism and decreased body fat contents. ALA-DAG may be useful to decreased the risk of diseases associated with obesity.

L11 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:535224 HCAPLUS

DOCUMENT NUMBER: 133:136861

TITLE: Fatty acid-modified resin-containing coating or ink compositions

INVENTOR(S): Takayanagi, Masaaki; Iguchi, Akiko; Gotou, Naoki; Tsuchiya, Kinya

PATENT ASSIGNEE(S): Nisshin Oil Mills Ltd., Japan

SOURCE: PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000044840	A1	20000803	WO 2000-JP502	20000131
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,				

IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2359205 AA 20000803 CA 2000-2359205 20000131

EP 1158032 A1 20011128 EP 2000-902005 20000131

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

AU 748310 B2 20020530 AU 2000-23227 20000131

US 2002010298 A1 20020124 US 2001-884158 20010620

US 6596519 B2 20030722

PRIORITY APPLN. INFO.:

JP 1999-22535 A 19990129

WO 2000-JP502 W 20000131

AB Title compns. contain resins modified by fatty acids prepared from
enzyme-decomposed vegetable oils or fats. Treating **linseed**
oil with **Lipase** OF at 37° for 15 h gave a fatty
acid (FA) having unsatd. residual index 98.5%, APHA color number 1, and trans
acid content 0.2%. An aqueous electrophoretic composition containing
caprolactam-blocked PAPI and FA-modified Epo Tohto YD 128-Epo Tohto YD
011-**diethylaminopropylamine-diethanolamine** copolymer
showed good storage stability at 37° for 1 mo, throwing power 23
cm, and gave films with surface roughness 0.15 µm and high brightness.
Other FA-modified alkyd or acrylic resins were used to form UV-curable
coatings or white inks with good metal adhesion and hardness.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:809046 HCAPLUS

DOCUMENT NUMBER: 132:321363

TITLE: Influence of different **dietary** fat types on
thyroid hormone concentration, Na⁺,K⁺-ATPase and
lipoprotein **lipase** activities in rats

AUTHOR(S): Abou-El-Ela, Soad H.

CORPORATE SOURCE: Dept. of Biochemistry, Faculty of Pharmacy, Suez Canal
University, Egypt

SOURCE: Bulletin of the Faculty of Pharmacy (Cairo University)
(1999), 37(2), 27-32

CODEN: BFPHA8; ISSN: 1110-0931

PUBLISHER: Cairo University, Faculty of Pharmacy

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effects of **dietary** fat type on blood serum levels of
triiodothyronine and activities of Na⁺,K⁺-ATPase and lipoprotein
lipase were studied in 40 male Wistar rats 4 wk old. The rats
were fed **diets** containing beef tallow, olive oil, sunflower oil, or
linseed oil for 12 wk. The final body and liver wts. of
rats fed the beef tallow **diet** were increased compared with the
other groups fed the vegetable oil **diets**. Feeding olive oil or
linseed oil diets decreased body weight gains
compared to feeding sunflower oil **diet**. The serum
triiodothyronine concns. and activity of Na⁺,K⁺-ATPase in the liver and
skeletal muscle were lower in rats fed the beef tallow **diet**,
whereas lipoprotein **lipase** activity in the abdominal s.c.
adipose tissue was higher compared with the other **diets**. Among
the vegetable oil **dietary** groups, serum triiodothyronine concns.
and the activities of Na⁺,K⁺-ATPase and lipoprotein **lipase** were
lower in rats fed the sunflower **diet** compared with rats fed the
olive oil or **linseed oil diets**. Thus,

feeding saturated fat compared with vegetable oils may decrease the Na⁺,K⁺-ATPase activity in the liver and skeletal muscle by lowering blood serum triiodothyronine concns., resulting in higher body weight gain and lipoprotein **lipase** activity.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:57567 HCAPLUS

DOCUMENT NUMBER: 130:209199

TITLE: Preparation of chylomicrons and VLDL with monoacid-rich triacylglycerol and characterization of kinetic parameters in lipoprotein **lipase**-mediated hydrolysis in chickens

AUTHOR(S): Sato, Kan; Takahashi, Toshihiro; Takahashi, Yuji; Shiono, Hiroki; Katoh, Norio; Akiba, Yukio

CORPORATE SOURCE: Department of Animal Science, Faculty of Agriculture, Tohoku University, Sendai-shi, 981, Japan

SOURCE: Journal of Nutrition (1999), 129(1), 126-131

CODEN: JONUAI; ISSN: 0022-3166

PUBLISHER: American Society for Nutritional Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To study the substrate specificity of lipoprotein **lipase** (LPL) for triacylglycerol-rich lipoproteins with monoacid-rich triacylglycerols, monoacid-rich lipoproteins were prepared and the kinetic parameters of LPL were characterized in male broiler chickens. The chickens were fed **diets** with 8 g fat/100 g feed differing only in the fat source: palm oil (tripalmitin-rich), olive oil (triolein-rich), safflower oil (trilinolein-rich), and **linseed oil** (trilinolenin-rich). After the **diets** were fed for 3 days, the chickens were fasted for 2 days and then force-fed emulsions containing tripalmitin, triolein, trilinolein, or trilinolenin, resp. The triacylglycerols in chylomicrons and very-low-d. lipoprotein (VLDL) of chickens force-fed tripalmitin, triolein, or trilinolein contained the corresponding acid at >70% of total acids. Linolenic acid was incorporated into chylomicrons and VLDL to a lower extent (51.2 and 57.2%, resp.) in chickens force-fed trilinolein. Major apolipoproteins and lipid compns. were not different among the lipoproteins isolated from chickens fed the different fats. The Vmax of LPL was higher for palmitic acid-rich chylomicrons and VLDL and decreased with increasing chain length and unsatn. of monoacids in the order of 16:0 > 18:1 > 18:2 > 18:3. The ESR anal. order parameter (S) decreased with monoacid chain length and unsatn. The Vmax of LPL increased linearly (r = 0.912) with increasing palmitic acid content in lipoprotein triacylglycerols. Thus, lipoprotein metabolism by LPL is modulated by the palmitic acid content of the lipoprotein triacylglycerols, which affects the fluidity of lipoproteins.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:656500 HCAPLUS

DOCUMENT NUMBER: 129:259730

TITLE: The activity of hepatic **phospholipase** A2 in zinc-deficient rats

AUTHOR(S): Eder, K.; Waldhauser, K.; Kirchgessner, M.

CORPORATE SOURCE: Institut Ernahrungsphysiologie, Technische Universitaet Muenchen-Weihenstephan, Freising, D-85350, Germany

SOURCE: Trace Elements and Electrolytes (1998), 15(4), 185-189

CODEN: TEELEO; ISSN: 0946-2104

PUBLISHER: Dustri-Verlag Dr. Karl Feistle

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Previous studies have demonstrated that Zn deficiency changes the ratio between arachidonic acid and eicosapentaenoic acid in rat tissue phospholipids. An altered activity of **phospholipase A2 (PL A2)**, the key enzyme in membrane degradation, could be one possible reason for this phenomenon. The activity of this enzyme in Zn-deficient rats was studied. 4 Groups of rats were fed Zn-deficient (0.5 mg Zn/kg) or Zn-adequate (45 mg Zn/kg) **diets** with either olive oil or **linseed oil** as source of fat. To ensure an adequate food intake, all the rats were force-fed by gastric tube over a period of 13 days. Feeding the Zn-deficient **diets** markedly lowered body weight gains as well as Zn concns. and activities of alkaline phosphatase in plasma proving the Zn-deficient state of those animals. The activity of PL A2 was measured in hepatic mitochondria with 1-palmitoyl-2-(1-14C)-linoleoyl-phosphatidylethanolamine, 1-palmitoyl-2-(1-14C)-arachidonoyl-phosphatidylethanolamine, and 1-palmitoyl-2-(1-14C)-arachidonoyl-phosphatidylcholine as substrates for enzyme assay. Zn deficiency did not influence PL A2 activity in hepatic mitochondria, regardless of the **dietary** fat and the substrate used. The type of fat had a slight effect on the activity of this enzyme. Rats fed on olive oil **diets** had a slightly higher PL A2 activity than rats fed on **linseed oil diet** with phosphatidylethanolamine as substrate. Using phosphatidylcholine as substrate, the activity of PL A2 was generally very low. In conclusion, alterations of membrane fatty acid composition observed in Zn-deficient animals are not caused by an altered activity of PL A2.

L11 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:362027 HCAPLUS
DOCUMENT NUMBER: 129:65938
TITLE: Less body fat accumulation in rats fed unsaturated fats than in rats fed saturated fats
AUTHOR(S): Shimomura, Yoshiharu; Matsuo, Tatsuhiro; Takeuchi, Hiroyuki
CORPORATE SOURCE: Department of Bioscience, Nagoya Institute of Technology, Japan
SOURCE: Undo Seikagaku (1997), 9, 92-99
CODEN: UNSEFC; ISSN: 0915-4515
PUBLISHER: Minsei Kagaku Kyokai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB Fat is considered to be a food component to promote most efficiently body fat accumulation. We compared efficiency of rat body fat accumulation between safflower oil (rich in polyunsatd. fats) and beef tallow (rich in saturated fats). The results clearly showed that body fat accumulation was less in rats fed a safflower oil **diet** than in rats fed a beef tallow **diet**. The mechanisms for the effect of safflower oil **diet** are that the safflower oil **diet** elevated sympathetic activities, resulting in elevation of **diet**-induced thermogenesis and suppression of insulin secretion from pancreas and activated lipoprotein **lipase** in heart and skeletal muscle, promoting fat oxidation. The same effects of safflower oil were observed in high oleic acid-safflower oil and **linseed oil**, suggesting that unsatd. fats, regardless of degree of unsatn., have the same effects of body fat accumulation.

L11 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:707365 HCAPLUS
DOCUMENT NUMBER: 126:7101
TITLE: Modification of membrane fatty acid composition, eicosanoid production, and **phospholipase A**

- activity in Atlantic salmon (*Salmo salar*) gill and kidney by **dietary** lipid
- AUTHOR(S): Bell, J. Gordon; Farndale, Bruce M.; Dick, James R.; Sargent, John R.
- CORPORATE SOURCE: Department Biological Molecular Science, University Stirling, Stirling, FK9 4LA, UK
- SOURCE: Lipids (1996), 31(11), 1163-1171
CODEN: LPDSAP; ISSN: 0024-4201
- PUBLISHER: AOCS Press
- DOCUMENT TYPE: Journal
- LANGUAGE: English
- AB Atlantic salmon post-smolts were fed **diets** containing either fish oils (Fosol, FO and Marinol, MO) rich in long-chain n-3 polyunsatd. fatty acids (PUFA), or plant oils rich in 18:2n-6 (sunflower oil, SO) or 18:3n-3 (**linseed oil**, LO) for 12 wk. The major PUFA in individual phospholipids from gill and kidney were related to the **dietary** lipid intake. Levels of n-6 PUFA were highest while levels of n-3 PUFA were lowest in fish fed SO. Fish fed LO generally had lower levels of 20:4n-6 compared to the other treatments while fish fed SO generally had the highest levels of 20:4n-6. In all phospholipid classes except phosphatidylinositol (PI) 20:5n-3 was greatest in fish fed MO followed by FO, LO, and SO. In PL, 20:5n-3 was also highest in fish fed MO but those fed LO contained more 20:5n-3 than those fed FO. This resulted in the ratio of the eicosanoid precursors, 20:4n-6/20:5n-3, being significantly greater in fish fed SO, for all phospholipid classes, compared to fish fed the other three **dietary** oils. The activity of gill **phospholipase** A was greatest in fish fed FO and was lowest in fish fed SO. The concentration of PGF3 α was significantly increased in gill homogenates from fish fed MO compared to the other three treatments while PGF2 α was significantly increased in fish fed SO compared to those fed LO. The concentration of PGE3 was significantly reduced in kidney homogenates from fish fed SO compared to the other three treatments while PGE2 was significantly increased in fish fed SO compared to those fed either FO or LO.
- L11 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
- ACCESSION NUMBER: 1995:784334 HCAPLUS
- DOCUMENT NUMBER: 123:197422
- TITLE: Serum triiodothyronine concentration and Na⁺, K⁺-ATPase activity in liver and skeletal muscle are influenced by **dietary** fat type in rats
- AUTHOR(S): Takeuchi, Hiroyuki; Matsuo, Tatsuhiro; Tokuyama, Kumpei; Suzuki, Masashige
- CORPORATE SOURCE: Res. Lab., Nisshin Oil Mills, ltd., Yokohama, 221, Japan
- SOURCE: Journal of Nutrition (1995), 125(9), 2364-9
CODEN: JONUAI; ISSN: 0022-3166
- PUBLISHER: American Institute of Nutrition
- DOCUMENT TYPE: Journal
- LANGUAGE: English
- AB The effects of **dietary** fat type on serum thyroid hormone, activity of Na⁺,K⁺-ATPase and lipoprotein **lipase** were studied. Rats were fed an exptl. **diet** containing lard, high oleic safflower oil, safflower oil or **linseed oil** for 12 wk. Carcass fat content was significantly higher in rats fed the lard **diet** than in those fed the other **diets**. However, intra-abdominal adipose tissue wts. were not affected by type of **dietary** fat. The serum triiodothyronine concentration and the activity of Na⁺,K⁺-ATPase in the liver and skeletal muscle were significantly lower in the lard **diet** group than in the other **diet** groups. The lipoprotein **lipase** activity of abdominal s.c. fat was significantly higher in rats fed the lard **diet** than in rats fed

the other **diets**, but the activity of lipoprotein **lipase** in intra-abdominal fat was not significantly different. These results suggest that the intake of lard, compared with the intake of the vegetable oils, may decrease Na⁺,K⁺-ATPase activity in the liver and skeletal muscle by lowering serum triiodothyronine concentration, resulting in the promotion of body fat accumulation.

L11 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:648864 HCAPLUS

DOCUMENT NUMBER: 119:248864

TITLE: **Dietary** sunflower, linseed, and fish oils affect phospholipid fatty acid composition, development of cardiac lesions, **phospholipase** activity and eicosanoid production in Atlantic salmon (*Salmo salar*)

AUTHOR(S): Bell, J. G.; Dick, J. R.; McVicar, A. H.; Sargent, J. R.; Thompson, K. D.

CORPORATE SOURCE: Sch. Nat. Sci., Univ. Stirling, Stirling, FK9 4LA, UK
SOURCE: Prostaglandins, Leukotrienes and Essential Fatty Acids (1993), 49(2), 665-73

CODEN: PLEAEU; ISSN: 0952-3278

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Atlantic salmon post-smolts were fed practical-type **diets** in which the lipid was supplied either as fish oil (FO), sunflower oil (SFO), or **linseed oil** (LO) for 12 wk. In general, the heart phospholipids from SFO-fed fish had increased 18:2n-6, 20:2n-6, 20:3n-6, and 20:4n-6 but decreased 20:5n-3 compared to both other **dietary** treatments. This was reflected in a decreased n-3/n-6 polyunsatd. fatty acid (PUFA) ratio and an increased 20:4n-6/20:5n-3 or eicosanoid precursor ratio in SFO-fed fish. While heart phospholipids of fish fed LO had increased levels of 18:2n-6, 20:2n-6, and 20:3n-6 compared to fish fed FO, 20:4n-6 levels were reduced, although significantly only in phosphatidylcholine (PC). **Dietary**-induced changes in phospholipid fatty acid compns. of blood leukocytes were similar to those in heart, although fish fed LO had more 20:5n-3 than fish fed FO. Thromboxane B2 (TXB2) produced by stimulated blood cells was lower in fish fed LO than in those fed SFO. Prostaglandin E2 (PGE2) production was reduced in LO-fed fish compared to both other **dietary** treatments. Fish fed LO had reduced PC in heart membranes compared to the other 2 **dietary** treatments, resulting in a ratio of PC:PE (phosphatidylethanolamine) of <1. Fish fed SFO developed a marked cardiac histopathol. which, while present in FO-fed fish albeit in a less severe form, was virtually absent in fish fed LO. Fish fed SFO had more heart **phospholipase A** activity than those given either FO or LO.

L11 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:453785 HCAPLUS

DOCUMENT NUMBER: 109:53785

TITLE: Effects of various combinations of ω3 and ω6 polyunsaturated fats with saturated fat on serum lipid levels and eicosanoid production in rats

AUTHOR(S): Lee, Joon Ho; Sugano, Michihiro; Ide, Takashi
CORPORATE SOURCE: Sch. Agric., Kyushu Univ., Fukuoka, 812, Japan
SOURCE: Journal of Nutritional Science and Vitaminology (1988), 34(1), 117-29

CODEN: JNSVA5; ISSN: 0301-4800

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effects of varying the ratio of polyunsatd./saturated fatty acids (P/S) and ω3/ω6 polyunsatd. fatty acids (PUFA) of **dietary** fats on lipid metabolism were studied in rats using safflower oil (SFO),

linseed oil (LSO), palm oil (PLO), and a 1:1 combination of these oils. The hypocholesterolemic and hypotriglyceridemic effects depended on the P/S ratio of **dietary** fats, LSO ($\omega 3$ PUFA) being more effective than SFO ($\omega 6$ PUFA). A similar pattern of the response was observed on liver cholesterol and triglyceride. The liver cholesterol-lowering effect of LSO, but not SFO, remained even when they were combined with PLO. The activity of liver $\Delta 6$ -desaturase tended to be higher while that of liver **phospholipase A2** was significantly lower in the LSO group than in the SFO or PLO groups. The aortic PGI₂ production and the production by platelets of thromboxane A₂ were significantly low in rats fed LSO, accompanying a distinct reduction of arachidonate in tissue phospholipids. The depressing effect of LSO disappeared when it was combined with SFO but not with PLO. There were no significant differences in enzyme activities and eicosanoid production between SFO and PLO in spite of a large difference in their P/S ratio. Thus, lipid parameters examined were complicatedly regulated by the ratios of $\omega 3/\omega 6$ as well as P/S, suggesting an existence of an appropriate ratio of these variables.

L11 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1972:98329 HCAPLUS

DOCUMENT NUMBER: 76:98329

TITLE: **Dietetic** adaptation of **lipase** and amylase in the rat pancreas

AUTHOR(S): Deschodt-Lanckman, M.; Camus, J.; Robberecht, P.; Christophe, J.

CORPORATE SOURCE: Fac. Med., Univ. Bruxelles, Brussels, Belg.

SOURCE: Archives Internationales de Physiologie et de Biochimie (1971), 79(4), 829-30
CODEN: AIPBAY; ISSN: 0003-9799

DOCUMENT TYPE: Journal

LANGUAGE: French

AB Levels of **lipase** (I) and amylase (II) activities in the pancreas and intestine of rats were determined after various **dietary** regimens. Adult rats were starved for 24 hr and then placed (group A) on a lipid 50, casein 38, carbohydrate 0% **diet** or (group B) corn oil 4, carbohydrate 67, casein 18% **diet**, or (group C) further fasting for 5 days. Some rats (group D) were also rendered diabetic by administration of alloxan. Groups A, C, and D showed a marked increase in pancreatic I; olive oil, corn oil, sunflower oil, and **linseed oil** were more effective than saturated fats in producing this effect in group A. Some elevation in I also occurred in group B, perhaps through a hypertriglyceridemia of hepatic origin. Levels of II were markedly reduced in groups C and D, but group B, even when starch was the carbohydrate used, showed no notable elevation of II over that seen with the standard (48% carbohydrate) **diet**. **Dietary** effects were reversible.

L11 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1972:44963 HCAPLUS

DOCUMENT NUMBER: 76:44963

TITLE: Short-term adaptation of pancreatic hydrolases to nutritional and physiological stimuli in adult rats

AUTHOR(S): Deschodt-Lanckman, M.; Robberecht, P.; Camus, J.; Christophe, J.

CORPORATE SOURCE: Med. Sch., Univ. Brussels, Brussels, Belg.

SOURCE: Biochimie (1971), 53(6-7), 789-96
CODEN: BICMBE; ISSN: 0300-9084

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Adult rats which had been fed chow containing 48% carbohydrate were starved for 24 hr, then fed for 5 days with various **diets**: (1) corn oil

4, carbohydrate 67, and casein 18%; (2) lipid 50, carbohydrate 0, and casein 18%; (3) starved for 3 or 6 days; or (4) made alloxan-diabetic and fed chow. Rats on (2, corn oil) showed a rapid decrease in pancreatic α -amylase (I) activity and an increase in **lipase** (II) activity, while rats on (1, starch) had a rapid decrease in II and an increase in I activity. The increases in specific activities tripled in the 5 days whereas the decreases were to .apprx.33% of the initial values, these changes were reversible. The specific activity of I on 67% starch, glucose, fructose, or sucrose did not exceed that on chow (48% carbohydrate). Induction by galactose and lactose was mediocre. I decreased sharply during fasting or in diabetic rats, and was always depressed on high-fat **diets**, but somewhat less so on tricaprylin. The specific activity of II in the pancreas doubled in diabetic rats. The increase in II in rats fed 67% galactose was probably due to reduced glucose tolerance. **Diets** rich in starch, fructose, and sucrose also increased II. All 50%-fat **diets** stimulated II. The II values with triolein and various oils (olive, corn, sunflower, walnut, and **linseed oils**) were 2-fold higher than those with more saturated fats (tricaprylin, tristearin, and lard). Activities estimated in the small intestine partially reflected the inductions. II was decreased in the small intestine on all 67% carbohydrate **diets** except galactose and was increased on all high fat **diets** and in alloxan diabetes. I was high in the small intestine on chow and most high-carbohydrate **diets** and low in fasting and high-fat **diets** except tricaprylin. Chymotrypsin in the small intestine of diabetic rats was 2-fold higher than in the controls. Trypsin was lower on high-fat **diets** containing tristearin, lard, corn oil, or sunflower oil and was increased in diabetic rats and after fasting. In the intestinal washings of animals kept for 5 days on a 21% stearic acid **diet** there was a marked reduction of the half-life of inactivation of trypsins and I.

L11 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1959:112864 HCAPLUS

DOCUMENT NUMBER: 53:112864

ORIGINAL REFERENCE NO.: 53:20287h-i,20288a

TITLE: Enzyme preparations containing **lipases** and oxidases

INVENTOR(S): Grandel, Felix

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2888385		19590526	US	

AB Enzyme preps. rich in **lipases** and oxidases are prepared by use of microorganisms and addition of vegetable-oil sludges, H₂O₂, or peroxide salts to bran and mineral salt culture media. The phosphatide content of the oil sludges accelerates the growth of microorganisms. Thus, a mixture of 18 kg. bran, 6 kg. wheat germ, 1 kg. **linseed oil** sludge, 2.4 kg. milk protein, 18l. conventional mineral salt solution and 18l. H₂O was spread on trays and sterilized with steam at 100°. The medium was cooled to 30-5° and incubated with *Aspergillus oryzae*. A growth temperature of 28-30° was maintained in the incubator by sterile moist aeration for 60-70 hrs. The product containing amylases, proteases, **lipases**, and oxidases is dried at 30-40°, finely ground, and added to condiments. Similarly, by varying the microorganisms and culture media, products are obtained for use in the baking and textile industry and as **dietary** supplements.

L11 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1959:68275 HCAPLUS
DOCUMENT NUMBER: 53:68275
ORIGINAL REFERENCE NO.: 53:12426f-i,12427a
TITLE: Lipolysis in the rumen
AUTHOR(S): Garton, G. A.; Hobson, P. N.; Lough, A. K.
CORPORATE SOURCE: Rowett Research Inst., Aberdeen, UK
SOURCE: Nature (London, United Kingdom) (1958), 182, 1511-12
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Expts. were done in which triglycerides in the form of **linseed oil** and tung oil were incubated with the rumen contents of sheep (1.0 g./100 ml. rumen contents) in a manner similar to that described by Shorland, et al. (C.A. 52, 5496g). Not only did hydrogenation occur as indicated by a considerable fall in the I number of the lipide, but it was also found that more than 75% of the total lipide recovered at the end of the incubation was in the form of free higher fatty acids. In compds. to which no oil was added, free higher fatty acids represented 50-60% of the total lipide present. Rumen contents obtained from animals fed on rations containing hay and either potato starch and mixed concentrates (including fish meal) or flaked maize, maize meal, peanut meal, and oats gave similar results. That the lipolysis was the result of enzyme action was demonstrated by incubating **linseed oil** with rumen contents obtained from a fistulated sheep 4 hrs. after the last feed of hay and mixed concentrates and with the same rumen contents which had been previously heated in a boiling water bath. Extensive lipolysis of ingested glycerides in the rumen of the intact animal was found on examination of the contents of the alimentary tract of a sheep which had been fed for several months on a **diet** consisting largely of hay, linseed meal and maize to which 40 g. of **linseed oil** was added daily. At slaughter, 7 hrs. after the last feed, 80-90% of the lipide in the rumen, abomasum, and upper part of the small intestine was in the form of free higher fatty acids of I value about 7.0. In the lower part of the small intestine the free fatty acids comprised 68% of the total lipides and had an I value of 48. Saliva is one of the main constituents of the liquid phase of rumen contents, but no lipolytic activity towards **linseed oil** could be demonstrated in samples of adult sheep saliva. It is, therefore, possible that microorganisms are responsible for the production of a **lipase** in the rumen. Hence, it is concluded that in the ruminant, **dietary** triglycerides reach the small intestine largely in the form of free fatty acids, of which the unsatd. components have been modified by hydrogenation.

L11 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1958:73307 HCAPLUS
DOCUMENT NUMBER: 52:73307
ORIGINAL REFERENCE NO.: 52:13053b-g
TITLE: Degree of unsaturation of fatty acids liberated in the course of lipolysis in vivo and in vitro of the rat by the pancreatic juice
AUTHOR(S): Clement, G.; Clement, L.
SOURCE: Biochem. Problems Lipids, Proc. Intern. Conf. 2nd, Ghent (1956), Volume Date 1955 306-14
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The substrates are glycerides of both animal and vegetable origin of mean mol. weight of 275, with different degrees of saturation. Glycerides free from phosphatides and fatty acids (FA) are incubated at 37° with pancreatic juice from the rat and adjusted to pH 8.2. Comparison is made of **linseed oil**, also peanut, rapeseed (colza), soybean oils, butter de Karit. acte.e substrates, as well as human and rat adipose

tissue, with respect to I number, % hydrolysis with different amts. of pancreatic juice over a period of from 1-4 hrs., I nos. of fatty acid liberated and of the residual glycerides. The I number of the liberated FA is always lower than that of the original substrate, and that of the fatty acids not hydrolyzed is higher than that of the original substrate. Comparisons of these factors show that (a) the concentration of saturated FA is higher than that of the substrate at first; this is diminished when the % of hydrolysis increases, (b) the concentration of oleic acid is less than that of the substrate at first, but increases as the hydrolysis proceeds, (c) the concentration of the dienes, trienes and tetraenes, is slight and increases only slowly during hydrolysis; in the non-hydrolyzed fraction the variations are opposite. The in vivo expts. were carried out on rats kept on a fat-free **diet** for two days before administering the oil or fat by a stomach tube. Animals with fistulas received the oil 24 hrs. after the operation; they were killed 3 hrs. later. The lipides of the intestine were rapidly extracted by the method of Kumagawa. The EtOH is evaporated and dried and the Et₂O-soluble matter (free FA, phosphatides, mono, di, and triglycerides and non-saponifiable material) separated. Phosphatides are precipitated by Me₂CO from Et₂O; the Et₂O-Me₂CO phase is evaporated and the liberated acids separated as before from the non-saponifiable matter. Phosphatides and glycerides are saponified by 2N KOH in EtOH at 95°. After acidification FA from all products are weighed and the I number determined. In all cases the glycerides are the most important part of intestinal contents. In both normal animals and animals with fistulas the I number increases from the soaps to the liberated FA to the glycerides, and that of the phosphatides is between that of the soaps and liberated FA. From in vitro and in vivo expts. it is shown that **lipase** liberates preferentially the saturated fatty acids during the early stages of hydrolysis of different glycerides.

L11 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1953:25973 HCAPLUS

DOCUMENT NUMBER: 47:25973

ORIGINAL REFERENCE NO.: 47:4447e-f

TITLE: Rat serum **lipase**. IV. Effect of various **dietary** fats

AUTHOR(S): Taylor, Jack D.; Tuba, Jules

CORPORATE SOURCE: Univ. Alberta, Edmonton

SOURCE: Canadian Journal of Medical Sciences (1952), 30, 453-6
CODEN: CJMSAV; ISSN: 0316-4403

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 46, 5153e; 47, 1250a. Adult male rats were fed **diets** containing 8% or 23% of **dietary** fat plus 2% of codliver oil. Serum tributyrinase activity was determined weekly by the method of Tuba and Hoare (C.A. 44, 8992d). Enzyme levels were significantly higher on **diets** containing the higher levels of fat. Highest enzyme concns. were observed with Crisco, followed in order by butter, cottonseed oil, **linseed oil**, corn oil, and olive oil.

L11 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1908:11109 HCAPLUS

DOCUMENT NUMBER: 2:11109

ORIGINAL REFERENCE NO.: 2:2457g-i,2458a-i,2459a-i,2460a-f

TITLE: Analysis and Chemistry of Fats in 1907, Concluded

AUTHOR(S): Fahrion, W.

SOURCE: Angewandte Chemie (1908), 31, 1219-28

CODEN: ANCEAD; ISSN: 0044-8249

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Rancidity, Oxidation and Chemistry of Varnish: V. Bouley has recognized for twelve years that the unsaturated fatty acids are concerned in the

cause of rancidity. He believes hydrolysis takes place. R. Cohn has rancid the fatty acids of high molecular weight are decomposed and caproic, caprylic, and capric acids formed. Ryan and Marshall believe that the cause of rancidity is the oxygen of the air, while Lauffs and Huismann hold that the cause is enzymic. According to Euler the oxidation of fats in plants proceeds thus: primary hydroxyl groups are formed and the molecule decomposes; the smaller decomposition products are completely oxidized; the larger hydroxyl-containing ones serve for the synthesis of carbohydrates. S. A. Fokin has made some interesting experiments on the oxidation of drying oils. The following metals in the order indicated serve as catalyzers: Co, Mn, Cr, Ni, Fe, Pt, Pd, Ca, Ba, Bi, Hg, U, Cu, Zn. The metals are used in the form of the oxides, the higher the O content the better is the action. The rapidity of the action varies as the cube root of the concentration of the catalyzers. At from 1/5 to 20 atmospheres the amount of O taken up is proportioned to the pressure. Parallel with the oxidation there is a polymerization. Hemp, sunflower seed and poppy oil can be utilized in making varnish. If **linseed oil** is heated in the presence of inert gases or in sealed tubes up to 250-300°, polymerization takes place. The polymerization product is not attacked by **lipase**. The product resulting from heating in sealed tubes gives fatty acids whose molecular weight is double that of the calculated value. Upon heating **linseed oil** to 270° under a pressure of 90-118 atmos. no polymerization takes place, only a thickening of a physical nature. Olive oil behaves similarly. Bornemann has discovered that the addition of turpentine oil weakens the power of **linseed oil** varnishes to take up oxygen. M. Guedras has concluded that wood oil is unsuitable for varnish manufacture. Henseval and Huwart believe that liver oils yield aldehydes as a result of fermentation and oxidation. Molinari and Fenaroli by dissolving triolein in hexane and treating with ozone obtained an ozonide C₅₇H₁₀₄O₁₅, which decomposes at 120-130°. It also decomposes upon boiling with water but gives off no ozone. With alcoholic potash it gives azelaic and nonylic acid and an acid of the formula According to Molinari unsaturated fatty acids with a triple bond take up no ozone and only two atoms of iodine, and can be differentiated from those of two bonds by these characteristics. C. Harries finds that stearic add in hexane solution yields a thick light yellow ozonide which decomposes with water, giving off ozone and forming azelaic and pelargonic acids. C. Thieme states that the fatty acids of castor oil give a gelatinous ozonide, from the decomposition products of which azelaic acids only could be isolated. Erucasac and brassidinic acids yield an ozonide, C₂₂H₃₄O₈, which decomposes into nonylaldehyde, pelargonic and brassylic acids. Fat-splitting: Fanto and Stritar found upon investigating the saponification of rape oil, that the reaction is practically direct and that no by-products are formed. Triarachin is more slowly attacked than the unsaturated glycerides. J. Marcusson maintains that Lewkowitsch's investigations on saponification do not prove that it proceeds in stages. He has repeated the latter's work and confirmed his result regarding a zigzag rise and fall of the acetyl value, but the separated fatty acids behave similarly, so that the presence of mono and diglycerides is not proven. Grun and Theiner do not doubt the possibility of saponification by stages, inasmuch as they obtained stearic acid, monostearic acid and monostearochlorhydrin, by treating distearochlorhydrin with H₂SO₄. J. Meyer has also shown saponification by stages while working with glycoldiacetate and triacetin. E. Hoyer has made some new investigations on the fat-splitting ferment of the castor oil seed. By digesting the seeds with water, water-soluble acids are formed, mainly lactic acid which dissolves the ferment. The finely ground seeds are centrifuged and the enzyme obtained as an emulsion. M. Nicloux adds a small amount of MnSO₄ or FeSO₄ whereby a catalytic action hastens the splitting. H. Mastbaum has found a fat-splitting enzyme in the cola nut. Water, weak acids and alkalies 'hinder the action. Alcohol and chloroform stop the action

completely, while petroleum ether and ether hasten it. A lipase similar to that of the cola nut is found in maize, oats and black pepper. The ferment of the pancreatic juice may, according to W. Dietz, build esters as well as split them. The reaction is proportional to the concentration. Barbe, Garelli, and De Paoli split the fats (in autoclaves) by means of ammonia, and decompose the soap with steam or by boiling with water, or by transforming into K or Na soaps. A partial separation of the solid and liquid fatty acids can also be made, for the ammonia soaps of oleic acid are more slowly hydrolyzed and more soluble in water than the stearic and palmitic acid soaps. With the Twitchell process the fats should first be treated with H_2SO_4 and steam and air excluded on account of darkening. In 44 hours a split of 95-6% can be obtained. The H_2SO_4 hydralysis is suited for dark fats such as leather fat. The fatty acids must be distilled. They contain 15% unsaponifiable in the case of leather fat. In the preliminary treatment with the Twitchell process a loss of glycerol may take place; the autoclave process gives more and better glycerol and is no more expensive. The process of Krebitz gives good results, a freshly burned lime being necessary. Soaps: The investigations of Merklen have produced the following conceptions: The composition of soaps is variable and depends upon the character of the fatty acids, the nigro and the temperature. The sodium soaps behave like colloids, and in the technical sense are to be regarded as absorption compounds, all the materials of which in the process of boiling, exert an influence upon the finished product. J. Lewkowitsch does not agree with Merklen's views and doubts whether a hard soap could be produced with less than 31% of H_2O , which he regards as the H_2O of constitution. He also opposes the view of Krafft and Wiglow who hold that soap is completely hydrolyzed by means of water if the separated fatty acids are removed. The dissociation is hindered by the alkali. P. Rohland inclines to Merklen's view. Dilute soap solutions contain un-dissociated fatty acids, fatty acid anions, alkali and hydroxyl ions. Opposed to this, concentrated soap solutions have a marked colloidal character; they are solutions of water, alkali and OH ions in soap. The soap is very sensitive to excess of OH ions. As a sort of protection against excess of OH ions, CO_3 ions are added as K_2CO_3 and Na_2CO_3 in order to reduce causticity. E. Fisher obtains the same result by using KCl and NaCl. O. Sachs states that the addition of rosin is not to be considered as a cheapening agent for it improves the soap and makes the other fats more easily saponifiable. According to C. Rasp the disinfecting power of soap is considerable but variable and increases with the temperature. P. Krebitz has improved his process in that he recovers the $(\text{NH}_4)_2\text{CO}_3$ by means of which he transforms his lime soap into ammonia soap before finally obtaining the sodium or potassium soap. H. Reuter obtains neutral soaps by the addition of zinc or magnesium salts and P. Horn by adding non-coagulable albumoses. Davidsohn and Weber use a preparation of fuller's earth as a filter. According to C. Stiepel, petroleum can be incorporated into the soap mass by adding almost enough salt to cause a salting out. The unpleasant odor of tar soaps can be gotten rid of by oxidation with KMnO_4 . An analysis of a tar soap from Baku by K. W. Charitshkov gave 27.3% tar acids. Davidsohn and Weber use 60% alcohol in determining the alkali as caustic and as carbonate. The soap is dissolved and both titrated; in a second sample the soap and Na_2CO_3 are precipitated by BaCl_2 and the NaOH titrated directly without filtering. Fats and Oils: H. Schlegel has investigated a number of butter fats from Hungary which showed high free acids but no rancidity. He believes that strong heating over direct fire produces lactic acid. According to A. Scala the volatile fatty acids of sheep milk disappear in the ripening of cheese so that margarine is difficult to detect in cheese made from sheep milk. A. Hoffman says that margarine with more than 14% of H_2O has poor keeping qualities. K. Mann makes margarine similar to butter by fermenting the milk and fat mixture with kefir after first adding lecithin. A. Bernstein adds egg yolk, lactic acid and NaHCO_3 for the same purpose. According to

A. Leys the solid glycerides of lard never melt below 60°, but by adulteration with margarine, ox fat and others the m. p. can be lowered to 52.6°. E. Hinks states that cacao fat to the extent of as little as 5% can be detected in butter by the different crystal forms in alcoholic and ethereal solutions. P. Pollatschek has investigated olive oils from the Spanish Isles. C. Blarez makes R. acte. enard's test more sensitive by using absolute alcohol for dissolving the soap. Synthesis and Absorption of Fats: Grun and Schacht have continued their investigations on the synthesis of fats. Lauro and myristodistearin show, by the cryoscopic method, in the stable form double molecular weight, and in the labile, simple molecular weight. Myristodilaurin in both forms was mono-molecular. Grun and Theiner have made a number of mixed unsymmetrical triglycerides from fatty acids and chlorhydrindisulphuric acid. E. Twitchell uses the sulpho-fatty acids for the synthesis of fats, 100 parts stearic acid, 10 parts glycerol, and 5 parts sulpho-fatty acids heated to 100° are said to esterify rapidly. Ulzer, Balik, and Sommer endeavor to obtain diacylate of the higher fatty acids from C16 to C22, by boiling the latter with glycerol in vacuum and extracting the product with petroleum ether. Morgan, Beger, and Westhauser have proved that an increase in the protein content in the food increases the amount of milk but lowers its fat content. C. Amberger has shown again the influence of feeding upon the composition of butter fat. The Reichert-Meissl values varied from 16 to 31, the saponification value from 219-239, and the iodine number from 21-39. S. Levites finds that the sodium salts of stearic, palmitic and oleic acid are more quickly absorbed than the fatty acids. Theoretical: According to M. Siegfeld the saturated fatty acids of butter fat consist mainly of myristic acid. Kunz-Krause and Massute obtained as a by-product in making cantharidin a fatty acid C18H36O2 of m. p. 67.25°. Bedford has investigated the unsaturated fatty acids of **linseed oil** and finds a solid and a liquid hexabromide by debrominating the hexabromlinolic acid and then brominating again. Linolic acid to the extent of 15.3% was found. J. Lewkowitsch obtained optically active hydrocarbons by distilling an optically active glyceride with Zn dust. Technical: The Griesheim Electron chemical works says concerning extraction with CCl4, that iron apparatus must be lined with lead or tin. The loss of solvent is 0.5% of the weight of the substance extracted against 0.8% for benzine. Other good solvents are trichlorethylene and higher homologues of acetone. A. Haller believes that the esters resulting from the alcoholysis of fats can be used technically. The oleic acid ester is easily soluble in alcohol, odorless and does not become rancid; stearic and palmitic acid esters are plastic and the esters drying oils can serve as solvents. According to L. Donelly, leather fat and refuse fat can be used for manufacturing stearic acid by first treating with H2SO4 and distilling the fatty acids with 4-5 parts of fatty acids from tallow. K. Liensen emulsifies mineral oils with stearic acid amide combined with soap. The product is useful in cosmetics. N. Sulzberger forms azo colors, soluble in fats, waxes and paraffin, from stearic acid anilide.

=> d que stat 113

L5 1 SEA FILE=REGISTRY ABB=ON "FLAXSEED OIL"/CN
 L6 1 SEA FILE=REGISTRY ABB=ON "LINSEED OIL"/CN
 L7 1 SEA FILE=REGISTRY ABB=ON L5 OR L6
 L8 1 SEA FILE=REGISTRY ABB=ON LIPASE/CN
 L9 19400 SEA FILE=HCAPLUS ABB=ON (L7 OR (?FLAXSEED? OR ?LINSEED?) (W)OIL
 ?)
 L10 143 SEA FILE=HCAPLUS ABB=ON L9 AND (L8 OR ?LIPASE?)
 L11 22 SEA FILE=HCAPLUS ABB=ON L10 AND (?DIET? OR ?FOOD? (W) ?SUPP?)
 L12 40 SEA L11
 L13 17 DUP REMOV L12 (23 DUPLICATES REMOVED)

=> d ibib abs 113 1-17

L13 ANSWER 1 OF 17 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
 ACCESSION NUMBER: 2003-645570 [61] WPIDS
 DOC. NO. CPI: C2003-176414
 TITLE: **Food supplement** formulation used to
 promote series 3 prosteglandins useful in reducing
 stroke, comprises **flaxseed oil** and
lipase.
 DERWENT CLASS: D13
 INVENTOR(S): WATSON, B F; WATSON, T S
 PATENT ASSIGNEE(S): (WATS-I) WATSON B F; (WATS-I) WATSON T S
 COUNTRY COUNT: 1
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2003124240	A1	20030703	(200361)*		2

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2003124240	A1	US 2001-34551	20011228

PRIORITY APPLN. INFO: US 2001-34551 20011228

AN 2003-645570 [61] WPIDS

AB US2003124240 A UPAB: 20030923

NOVELTY - A **food supplement** formulation comprises
flaxseed oil and **lipase**.

ACTIVITY - Cerebroprotective; Cardiant; Antiinflammatory. No
 biological data is given.

MECHANISM OF ACTION - None given.

USE - Used as **food supplement** formulation to
 promote series 3 prosteglandins that are useful in reducing stroke, heart
 attack or inflammatory disease.

ADVANTAGE - The inventive **food supplement**
 formulation provides good health. The flaxseed and **lipase**
 synergistically work together to promote series 3 prosteglandins that are
 useful in reducing stroke, heart attack, or inflammatory disease. The
 formulation thus improve bodily function including cardiovascular
 function, joint flexibility, fat metabolism, nervous system, brain
 function, hormone production or cell division.
 Dwg.0/0

L13 ANSWER 2 OF 17 MEDLINE on STN

ACCESSION NUMBER: 2003208461 MEDLINE

DOCUMENT NUMBER: PubMed ID: 12728744

TITLE: Essential fatty acids and the brain.

AUTHOR: Haag Marianne
 CORPORATE SOURCE: Department of Physiology, University of Pretoria, PO Box 2034, Pretoria 0001, South Africa.. mhaag@medic.up.ac.za
 SOURCE: Canadian journal of psychiatry. Revue canadienne de psychiatrie, (2003 Apr) 48 (3) 195-203. Ref: 99
 Journal code: 7904187. ISSN: 0706-7437.
 PUB. COUNTRY: Canada
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, ACADEMIC)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200305
 ENTRY DATE: Entered STN: 20030506
 Last Updated on STN: 20030529
 Entered Medline: 20030528

AB OBJECTIVE: To review the role of essential fatty acids in brain membrane function and in the genesis of psychiatric disease. METHOD: Medline databases were searched for published articles with links among the following key words: essential fatty acids, omega-3 fatty acids, docosahexanoic acid, eicosapentanoic acid, arachidonic acid, neurotransmission, **phospholipase A2**, depression, schizophrenia, mental performance, attention-deficit hyperactivity disorder, and Alzheimer's disease. Biochemistry textbooks were consulted on the role of fatty acids in membrane function, neurotransmission, and eicosanoid formation. The 3-dimensional structures of fatty acids were obtained from the Web site of the Biochemistry Department, University of Arizona (2001). RESULTS: The fatty acid composition of neuronal cell membrane phospholipids reflects their intake in the **diet**. The degree of a fatty acid's desaturation determines its 3-dimensional structure and, thus, membrane fluidity and function. The ratio between omega-3 and omega-6 polyunsaturated fatty acids (PUFAs), in particular, influences various aspects of serotonergic and catecholaminergic neurotransmission, as shown by studies in animal models. **Phospholipase A2 (PLA2)** hydrolyzes fatty acids from membrane phospholipids: liberated omega-6 PUFAs are metabolized to prostaglandins with a higher inflammatory potential, compared with those generated from the omega-3 family. Thus the activity of PLA2 coupled with membrane fatty acid composition may play a central role in the development of neuronal dysfunction. Intervention trials in human subjects show that omega-3 fatty acids have possible positive effects in the treatment of various psychiatric disorders, but more data are needed to make conclusive directives in this regard. CONCLUSION: The ratio of membrane omega-3 to omega-6 PUFAs can be modulated by **dietary** intake. This ratio influences neurotransmission and prostaglandin formation, processes that are vital in the maintenance of normal brain function.

L13 ANSWER 3 OF 17 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 2003:89830 CABA
 DOCUMENT NUMBER: 20033059692
 TITLE: **Dietary** strategies for increasing docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) concentrations in bovine milk: a review
 AUTHOR: Rymer, C.; Givens, D. I.; Wahle, K. W. J.
 CORPORATE SOURCE: Nutritional Sciences Research Unit, School of Agriculture, Policy and Development & ADAS, New Agriculture Building, The University of Reading, Earley Gate, PO Box 237, Reading RG6 6AR, UK.
 SOURCE: Nutrition Abstracts and Reviews. Series B, Livestock Feeds and Feeding, (2003) Vol. 73, No. 4, pp. 9R-25R. many ref.
 Publisher: CAB International. Wallingford

ISSN: 0309-135X
PUB. COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 20030606
Last Updated on STN: 20030606

- AB A review was made of the literature concerning the metabolism of fatty acids in the dairy cow, and the potential of increasing the content of the essential fatty acids eicosapentaenoic acid (EPA; C20:5) and docosahexaenoic acid (DHA; C22:6) in cows' milk. EPA and DHA are two n-3 polyunsaturated fatty acids, which can be synthesised from [alpha]-linolenic acid (LNA, C18:3). Both EPA and DHA have anti-thrombotic and anti-carcinogenic effects. The UK Department of Health has recommended that the daily human intake of total n-3 PUFA should be 0.2 g/d, which is approximately double the current average intake. The richest source of **dietary** EPA and DHA is marine products, but the consumption of fish in the UK is declining. Milk fat consumption constitutes 30% of total fat consumption in the UK **diet**, and so enhancing the concentration of EPA and DHA in milk fat could be an effective means of increasing the consumption of these fatty acids in the UK. Grass and linseed are rich sources of LNA for dairy cows, while fish oil or marine algae are the richest sources of EPA and DHA. However, a large proportion of these fatty acids (ca 0.9) are hydrogenated to more saturated fatty acids by the microorganisms in the rumen. The proportion of absorbed n-3 PUFA is therefore only about 7 g/kg ingested n-3 PUFA. Absorbed EPA and DHA are transported around the body as phospholipids, associated with the high-density lipoprotein fraction of the plasma. This fraction is not a good substrate for lipoprotein **lipase**, which is the enzyme in the mammary gland that removes fatty acids from the circulation for incorporation into milk fat. The uptake by the mammary gland of absorbed EPA and DHA is therefore extremely low. The concentration of EPA and DHA in milk fat therefore remains low even when the **diet** is enriched with these fatty acids. It is possible that the EPA and DHA present in the milk arise from de novo synthesis of these acids from LNA in the mammary gland. However, while EPA is synthesised from LNA, there appears to be a block on the subsequent synthesis of DHA from EPA. EPA and DHA are not stored in adipose tissue triacylglycerols, and they are not used for oxidative metabolism. There is therefore little competition for circulating EPA and DHA between the mammary gland and adipose tissue, or between secretion and oxidation. There is some potential storage of these acids in the phospholipids of muscle tissue and adipose tissue. Grass is a rich source of LNA, and the LNA content of milk can be enhanced by increasing the herbage content of the **diet**. This potentially provides more precursors of EPA and DHA. However, increasing the proportion of forage in the **diet** also tends to increase the extent of rumen biohydrogenation of PUFA as this process is encouraged by higher rumen pH and reduced propionate production. Including either fish oil or some species of marine microalgae in the **diet** increases the EPA and DHA content of milk. However, these oils can adversely affect rumen function, so that total dry matter intake and milk fat content are reduced. Feeding fish oils to ruminant animals may also not be a sustainable practice in the longer-term. Protecting marine oils from rumen biohydrogenation should prevent the adverse effects on rumen function. However, the evaluation of a protected marine microalgae product suggested that the protection was far from complete, and a reliable means of treating algae to protect it from rumen metabolism still awaits development. Further enhancement of the EPA and DHA content of cows' milk requires more research. Issues, which need to be addressed, are the development of a suitable oil supplement, and a reliable means of protecting it from rumen biohydrogenation. A means of transporting the absorbed EPA and DHA in the circulation so that it is readily taken up by the mammary gland for incorporation into the milk fat also needs to be

developed. Changes in the marketing of milk that has been improved in this way would also be required to meet the increased cost of producing this nutritionally enhanced milk.

L13 ANSWER 4 OF 17 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
 ACCESSION NUMBER: 2002-415383 [44] WPIDS
 DOC. NO. NON-CPI: N2002-326759
 DOC. NO. CPI: C2002-117233
 TITLE: Composition useful in the treatment of obesity comprises at least one micronutrient and target absorbent compound.
 DERWENT CLASS: B04 D13 J04 S03
 INVENTOR(S): BUCHANAN-BAILLIE-HAMILTON, P F; PECK, J C
 PATENT ASSIGNEE(S): (BUCH-I) BUCHANAN-BAILLIE-HAMILTON P F
 COUNTRY COUNT: 96
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002012882	A2	20020214	(200244)*	EN	86
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001076537	A	20020218	(200244)		
GB 2370504	A	20020703	(200251)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002012882	A2	WO 2001-GB3554	20010807
AU 2001076537	A	AU 2001-76537	20010807
GB 2370504	A	GB 2001-17052	20010712

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001076537	A Based on	WO 2002012882

PRIORITY APPLN. INFO: GB 2001-17052 20010712; GB
 2000-19327 20000808

AN 2002-415383 [44] WPIDS

AB WO 200212882 A UPAB: 20020711

NOVELTY - A composition comprises at least one active compound e.g. micronutrient or target compound absorbent.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: 1) a method for comparing the relative inhibitory effects of several of target compounds (A1)/items on the ability of a test subject (A2)/(A2) exposed to the items to control their weight involving performing the method for each (A1)/item, and comparing the inhibitory effects of each (A1)/item; 2) a method for labeling and/or certifying an item according to its inhibitory effect on the ability of (A2) exposed to the item to control their weight involving performing the method for the item, and labeling and/or certifying the item based on a pre-determined scale according to their inhibitory effect; 3) a method of diagnosis and/or prognosis of a weight-control-related disorder or disease in (A2) involving performing a method and correlating the results obtained from the method with the disease state of the subject; 4) determining a test subject's progress in altering the extent to which their ability to

control their weight has been inhibited involving performing the method at intervals, and comparing the results obtained from the method to establish the progress made; 5) production of a tailored advice plan for (A2) involving performing a method and providing a plan in accordance with the results obtained from the method. The plan provides a system for improving or maintaining the ability of (A2) to control their weight; 6) determining the extent of the inhibitory effect of (A1) on the ability of (A2) into whom (A1) is introduced to control their weight involving (i) determining the degree or severity by which (A1) affects each of several weight controlling systems (HICS) present in (A2); (ii) determining the persistence of (A1) in (A2); (iii) calculating the inhibitory effect as a function of values of (i) and (ii); 7) Use of the composition in the preparation of a medicament for the treatment of obesity; 8) production of a database of the inhibitory effects of several (A1)/items on the ability of (A2)/(A2) exposed to the items to control their weight involving performing the method for each (A1)/items, and combining the results into a database; 9) computer system for use in the performance of a method or displaying the output of the method, or displaying or accessing the database, comprising (a) a standard electronic computer circuit containing at least a random access memory, a read only memory, a processor; (b) a keyboard comprising several standard keyboard buttons; and (c) a display; 11) production of a labeled and/or certified item, involving providing the item to be labeled and/or certified, and performing the method on the item; 12) a database produced by the method; 13) a data carrier comprising the database; 14) determining the inhibitory effect of an item on the ability of (A2) exposed to the item to control their weight involving: a1) optionally determining the amount of each of several (A1) in the item having an inhibitory effect on the ability of (A2) to control their weight; and 15) a system for improving or maintaining the ability of (A2) to control their weight including (a) a commodity provider, which provides commodities for (A2), (b) a certifier which certifies each commodity according to its inhibitory effect on the ability of (A2) exposed to the item to control their weight such that the subject can select each commodity to its certification. The certifier optionally uses an analyzer for determining the presence of (A1) in each commodity and a database of the inhibitory effect of (A1) present in the commodity on the ability of (A2) to control their weight.

ACTIVITY - Anorectic; Cardiant; Antiasthmatic; Antiallergic; Cytostatic; Dermatological; Immunosuppressive.

MECHANISM OF ACTION - Inhibitor.

USE - For cosmetic improvement of the subject, which does not suffer from obesity; for treatment of the subject suffering from obesity; for use in a method for treatment of obesity; for controlling the weight of the subject; in the preparation of the medicament for the treatment of obesity (all claimed); for the control and treatment of various conditions associated with obesity e.g. immune dysfunction, autoimmunity, cardiovascular disorder, pulmonary disorder (e.g. asthma), allergies, cancer, mood changes, neurological illness, changes in libido, hormonal disorders, reproductive dysfunction, congenital abnormalities, metabolic disorder (e.g. glucose dysregulation), muscular skeletal disorder, renal and genitourinary disorder and skin disorder.

ADVANTAGE - The composition achieves significantly more effective and long lasting weight reduction without the use of drugs which interferes with the body's natural metabolism, by means of effectively restoring the body's own natural slimming system in a substantially natural manner.

Dwg.0/9

L13 ANSWER 5 OF 17 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
on STN

ACCESSION NUMBER: 2002332398 EMBASE

TITLE: Use of **dietary** supplements and their interactions
with prescription drugs in the elderly.

AUTHOR: Ly J.; Percy L.; Dhanani S.
 CORPORATE SOURCE: Dr. S. Dhanani, GRECC (11-G), V.A. Gt. Los Angeles
 Healthcare Sys., 11301 Wilshire Boulevard, Los Angeles, CA
 90073, United States. sdhanani@ucla.edu
 SOURCE: American Journal of Health-System Pharmacy, (15 Sep 2002)
 59/18 (1759-1762).
 Refs: 33
 ISSN: 1079-2082 CODEN: AHSPEK
 COUNTRY: United States
 DOCUMENT TYPE: Journal; Article
 FILE SEGMENT: 017 Public Health, Social Medicine and Epidemiology
 020 Gerontology and Geriatrics
 036 Health Policy, Economics and Management
 037 Drug Literature Index
 LANGUAGE: English

L13 ANSWER 6 OF 17 MEDLINE on STN DUPLICATE 1
 ACCESSION NUMBER: 2002336672 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 12079052
 TITLE: Lipoprotein **lipase** mRNA expression in abdominal
 adipose tissue is little modified by age and nutritional
 state in broiler chickens.
 AUTHOR: Sato K; Akiba Y
 CORPORATE SOURCE: Animal Nutrition, Graduate School of Agriculture, Tohoku
 University, Japan.
 SOURCE: Poultry science, (2002 Jun) 81 (6) 846-52.
 Journal code: 0401150. ISSN: 0032-5791.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200212
 ENTRY DATE: Entered STN: 20020625
 Last Updated on STN: 20021217
 Entered Medline: 20021210

AB Lipoprotein **lipase** (LPL)-catalyzed hydrolysis of plasma
 lipoproteins is a rate-limiting step in the transport of lipids into the
 peripheral tissues of broiler chickens. The aim of the present study was
 to investigate whether LPL mRNA expression in adipose tissue is affected
 by age or nutritional treatments, with a view to reducing fat accumulation
 in broiler chickens. The study found that chicken LPL mRNA expression in
 abdominal adipose tissue did not differ significantly between chickens
 aged 4, 6, and 8 wk, but there was less expression of LPL mRNA in 2-wk-old
 chickens. In nutritional modulation, LPL mRNA levels in abdominal adipose
 tissues were not modified by 48-h feed deprivation or by subsequent
 refeeding for 48 h. In addition, expression of LPL mRNA was not
 significantly altered in chickens fed for 7 d on **diets**
 containing 8% olive oil (triolein rich), safflower oil (trilinolein rich),
 or **linseed oil** (trilinolenin rich). On the other
 hand, adipose LPL mRNA expression in chickens force-fed for 12 h with a
 trilinolenin (18:3) emulsion after 48-h feed deprivation was significantly
 decreased when compared to that in chickens force-fed with a triolein
 (18:1) or trilinolein (18:2) emulsion. Changes to LPL immunoreactive
 protein levels in chicken abdominal adipose tissues brought about by aging
 and nutritional manipulations were similar to those observed in relation
 to mRNA expression. These findings suggest that LPL mRNA expression in
 growing chickens is less responsive to aging and nutritional manipulation
 than in mammals, thereby indicating specificity of physiological response
 on broiler chicken LPL.

L13 ANSWER 7 OF 17 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 DUPLICATE 2

ACCESSION NUMBER: 2001:510325 BIOSIS
 DOCUMENT NUMBER: PREV200100510325
 TITLE: **Food supplement** formulation.
 AUTHOR(S): Watson, Tommy Stanley [Inventor, Reprint author]
 CORPORATE SOURCE: Tarpon Springs, FL, USA
 ASSIGNEE: Renew Life, Inc., Tarpon Springs, FL, USA
 PATENT INFORMATION: US 6228367 May 08, 2001
 SOURCE: Official Gazette of the United States Patent and Trademark
 Office Patents, (May 8, 2001) Vol. 1246, No. 2. e-file.
 CODEN: OGUPE7. ISSN: 0098-1133.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 ENTRY DATE: Entered STN: 31 Oct 2001
 Last Updated on STN: 23 Feb 2002

AB A **food supplement** formulation comprises
flaxseed oil, borage seed oil, fish oil, and
lipase.

L13 ANSWER 8 OF 17 JICST-Eplus COPYRIGHT 2004 JST on STN.DUPLICATE 3

ACCESSION NUMBER: 1010807895 JICST-Eplus
 TITLE: Effects of **Dietary** A-Linolenic Acid-rich
 Diacylglycerol on Body Fat in Man (1) : Lowering Effect on
 Body Fat.
 AUTHOR: TAKEI A; KATSURAGI Y; ABE C; CHIKAMA A; FUMOTO S
 MEGURO S; TOKIMITSU I
 SHIMASAKI H
 ITAKURA H
 CORPORATE SOURCE: Kao Corp., Tokyo, Jpn
 Kao Corp., Tochigi, Jpn
 Teikyo Univ. School Of Medicine, Tokyo, Jpn
 Ibaraki Christian Univ., Ibaraki, Jpn
 SOURCE: J Oleo Sci, (2001) vol. 50, no. 9, pp. 735-746. Journal
 Code: G0238A (Tbl. 11, Ref. 31)
 CODEN: JOSOAP; ISSN: 1345-8957
 PUB. COUNTRY: Japan
 DOCUMENT TYPE: Journal; Article
 LANGUAGE: Japanese
 STATUS: New

AB This study was conducted to investigate the effects of **dietary**
 diacylglycerol rich in A-linolenic acid (ALA-DAG) on body fat in
 human. The ALA-DAG contained 49% A-linolenic acid and was prepared
 from **linseed oil** using immobilized **lipase**.
 This study consisted of two types of **dietary** restriction and two
 types of **diet**. In test 1, 2.5-3.7 g ALA-DAG was ingested as an
 edible oil under restriction of the amount of oil intake (50 ± 5 g/d)
 for 12w (66 subjects). In tests 2 and 3, 2.5 g ALA-DAG was ingested as a
 drink for 16w under calorie intake restriction determined based on
 subject's calorie requirements (48 and 30 subjects, respectively). In all
 tests, after a 4 week control-**diet** period, the subjects started
 the **diet** and every 4 weeks during the test period, blood tests
 for fat metabolism were carried out and body indices (weight, waist,
 skinfold thickness, body fat computed with tomography) were measured. In
 subjects ingesting **diets** containing 2.5 g of ALA-DAG (test 1, 2
 and 3), a significant decrease (-6.3 - -13.4%) of body fat area was
 observed. It was suggested that ALA-DAG had two characters of
 diacylglycerol and n-3 polyunsaturated fatty acid because of the high
 effectiveness of a small dose. These results showed that ALA-DAG improved
 fat metabolism and reduced body fat, and we speculate that ALA-DAG may be
 useful to reduce the risk of diseases associated with obesity. (author
 abst.)

L13 ANSWER 9 OF 17 MEDLINE on STN

DUPLICATE 4

ACCESSION NUMBER: 1999115841 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9915888
TITLE: Preparation of chylomicrons and VLDL with monoacid-rich triacylglycerol and characterization of kinetic parameters in lipoprotein **lipase**-mediated hydrolysis in chickens.
AUTHOR: Sato K; Takahashi T; Takahashi Y; Shiono H; Katoh N; Akiba Y
CORPORATE SOURCE: Department of Animal Science, Faculty of Agriculture, Tohoku University, Sendai-shi 981, Japan.
SOURCE: Journal of nutrition, (1999 Jan) 129 (1) 126-31.
Journal code: 0404243. ISSN: 0022-3166.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 19990311
Last Updated on STN: 19990311
Entered Medline: 19990223

AB To identify the substrate specificity of lipoprotein **lipase** (LPL) for triacylglycerol-rich lipoproteins with monoacid-rich triacylglycerols, monoacid-rich lipoproteins were prepared and kinetic parameters of LPL were characterized. Male broiler chickens were fed 8 g/100 g fat **diets** differing only in the fat source: palm oil (tripalmitin-rich), olive oil (triolein-rich), safflower oil (trilinolein-rich) and **linseed oil** (trilinolenin-rich). After **diets** were fed for 3 d, chickens were starved for 2 d and then force-fed emulsions containing one of the monoacid-triacylglycerols: tripalmitin, triolein, trilinolein or trilinolenin. The triacylglycerols in chylomicrons and very low density lipoprotein (VLDL) of chickens force-fed tripalmitin, triolein or trilinolein contained the corresponding acid at more than 70% of total acids. Linolenic acid was incorporated into chylomicrons and VLDL to a lower extent (51.2 and 57.2%, respectively) in chickens force-fed trilinolein. Major apolipoproteins and lipid compositions were not significantly different among all lipoproteins isolated from chickens fed the different fats. Vmax of LPL was significantly higher ($P < 0.05$) for palmitic acid-rich chylomicrons and VLDL and decreased with increasing chain length and unsaturation of monoacid: 16:0>18:1>18:2>18:3. The electron spin resonance analysis, order parameter (S), decreased with monoacid chain length and unsaturation. In addition, the Vmax of LPL increased linearly ($P < 0.01$, $r = 0.912$) with an increase in the palmitic acid content of the lipoprotein triacylglycerols. These findings suggest that lipoprotein catalysis by LPL is modulated by the palmitic acid content of the lipoprotein triacylglycerol, which affects the fluidity of lipoproteins.

L13 ANSWER 10 OF 17 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 5

ACCESSION NUMBER: 1998:509367 BIOSIS
DOCUMENT NUMBER: PREV199800509367
TITLE: The activity of hepatic **phospholipase** A2 in zinc-deficient rats.
AUTHOR(S): Eder, K.; Waldhauser, K.; Kirchgessner, M. [Reprint author]
CORPORATE SOURCE: Inst. Ernaehrungsphysiol., Technische Univ. Muenchen, D-85350 Freising, Germany
SOURCE: Trace Elements and Electrolytes, (1998) Vol. 15, No. 4, pp. 185-189. print.
ISSN: 0946-2104.
DOCUMENT TYPE: Article
LANGUAGE: English

ENTRY DATE: Entered STN: 18 Dec 1998
Last Updated on STN: 18 Dec 1998

AB Previous studies have demonstrated that zinc deficiency changes the ratio between arachidonic acid and eicosapentaenoic acid in rat tissue phospholipids. An altered activity of **phospholipase A2** (PL A2), the key enzyme in membrane degradation, could be one possible reason for this phenomenon. Therefore, the present study was performed to determine the activity of this enzyme in zinc-deficient rats. Four groups of rats were fed zinc-deficient (0.5 mg Zn/kg) or zinc-adequate (45 mg Zn/kg) **diets** with either olive oil or **linseed oil** as source of fat. To ensure an adequate food intake, all the rats were force-fed by gastric tube over a period of 13 days. Feeding the zinc-deficient **diets** markedly lowered body weight gains as well as zinc concentrations and activities of alkaline phosphatase in plasma proving the zinc-deficient state of those animals. The activity of PL A2 was measured in hepatic mitochondria with 1-palmitoyl-2-(1-14C)-linoleoyl-phosphatidylethanolamine, 1-palmitoyl-2-(1-14C)-arachidonoyl-phosphatidylethanolamine, and 1-palmitoyl-2-(1-14C)-arachidonoyl-phosphatidylcholine as substrates for enzyme assay. Zinc deficiency did not influence PL A2 activity in hepatic mitochondria, regardless of the **dietary** fat and the substrate used. In contrast, the type of fat had a slight effect on the activity of this enzyme. Rats fed on olive oil **diets** had a slightly higher PL A2 activity than rats fed on **linseed oil diet** with phosphatidylethanolamine as substrate. Using phosphatidylcholine as substrate, the activity of PL A2 was generally very low. The study, in conclusion, suggests that alterations of membrane fatty acid composition observed in zinc-deficient animals are not caused by an altered activity of PL A2.

L13 ANSWER 11 OF 17 MEDLINE on STN
ACCESSION NUMBER: 97444257 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9300789
TITLE: Effect of cyclic fatty acid monomers on fat absorption and transport depends on their positioning within the ingested triacylglycerols.
AUTHOR: Martin J C; Caselli C; Broquet S; Juaneda P; Nour M; Sebedio J L; Bernard A
CORPORATE SOURCE: Unite de Nutrition Lipidique, Institut National de la Recherche Agronomique, Dijon, France.
SOURCE: Journal of lipid research, (1997 Aug) 38 (8) 1666-79.
Journal code: 0376606. ISSN: 0022-2275.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199710
ENTRY DATE: Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971029

AB We investigated the intestinal digestion of cyclic fatty acid monomers (CFAM) isolated from heated **linseed oil** and their effects upon fatty acid lymphatic transport and lipoprotein profile in lymph. These cyclic fatty acid monomers were acylated in specific positions in the glycerol backbone of triacylglycerols (sn-(1/3) position for the 1C oil, sn-2 position for the 2C oil and together in the sn-1,2, and 3 positions for the 3C oil) and administered intragastrically to lymph-cannulated rats. Their luminal digestibility was also assessed in vitro using a pancreatic **lipase** assay. The **lipase** activity was 1.9 to 6.6 less towards the triacylglycerols acylated with cyclic fatty acids compared to control. The lowest activity was with the 2C oil. In the hydrolytic products, the cyclic fatty acid contents were similar between the experimental groups. When absorbed as

2-monoacyl-sn-glycerol (2C oil), cyclic fatty acid monomers were better and unselectively recovered into the lymph than when absorbed as free fatty acids (1C oil). In that latter situation, the bulkier cyclic fatty acids (C6 and cis membered-ring CFAM) were transported into the lymph to a lesser extent. The appearance of the lymphatic chylomicrons was delayed in rats fed the 1C oil. Cyclic fatty acid monomers from the 2C oil only increased the lymphatic transport of saturated fatty acids (80%). Cyclic fatty acids from the 3C oil (absorbed as 2-monoacyl-sn-glycerol and free fatty acid) usually elicited intermediary effects. We conclude that the effects of cyclic fatty acid monomers upon the intestinal metabolism are greatly influenced by their positioning within the triacylglycerol and that the structure of the cyclic fatty acids influences their lymphatic recovery only when they are absorbed as free fatty acid.

L13 ANSWER 12 OF 17 MEDLINE on STN DUPLICATE 6
 ACCESSION NUMBER: 97088511 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 8934449
 TITLE: Modification of membrane fatty acid composition, eicosanoid production, and **phospholipase** A activity in Atlantic salmon (*Salmo salar*) gill and kidney by **dietary** lipid.
 AUTHOR: Bell J G; Farndale B M; Dick J R; Sargent J R
 CORPORATE SOURCE: Department of Biological and Molecular Science, University of Stirling, Scotland, United Kingdom.
 SOURCE: Lipids, (1996 Nov) 31 (11) 1163-71.
 Journal code: 0060450. ISSN: 0024-4201.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199703
 ENTRY DATE: Entered STN: 19970414
 Last Updated on STN: 19970414
 Entered Medline: 19970328

AB Atlantic salmon post-smolts were fed **diets** containing either fish oils (Fosol, FO and Marinol, MO) rich in long-chain n-3 polyunsaturated fatty acids (PUFA), or plant oils rich in 18:2n-6 (sunflower oil, SO) or 18:3n-3 (**linseed oil**, LO) for 12 wk. The major PUFA in individual phospholipids from gill and kidney were related to the **dietary** lipid intake. Levels of n-6 PUFA were highest while levels of n-3 PUFA were lowest in fish fed SO. Fish fed LO generally had lower levels of 20:4n-6 compared to the other treatments while fish fed SO generally had the highest levels of 20:4n-6. In all phospholipid classes except phosphatidylinositol (PI) 20:5n-3 was greatest in fish fed MO followed by FO, LO, and SO. In PI, 20:5n-3 was also highest in fish fed MO but those fed LO contained more 20:5n-3 than those fed FO. This resulted in the ratio of the eicosanoid precursors, 20:4n-6/20:5n-3, being significantly greater in fish fed SO, for all phospholipid classes, compared to fish fed the other three **dietary** oils. The activity of gill **phospholipase** A was greatest in fish fed FO and was lowest in fish fed SO. The concentration of PGF3 alpha was significantly increased in gill homogenates from fish fed MO compared to the other three treatments while PGF2 alpha was significantly increased in fish fed SO compared to those fed LO. The concentration of PGE3 was significantly reduced in kidney homogenates from fish fed SO compared to the other three treatments while PGE2 was significantly increased in fish fed SO compared to those fed either FO or LO.

L13 ANSWER 13 OF 17 MEDLINE on STN DUPLICATE 7
 ACCESSION NUMBER: 95395658 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 7666254
 TITLE: Serum triiodothyronine concentration and Na⁺,K⁺-ATPase

activity in liver and skeletal muscle are influenced by **dietary** fat type in rats.

AUTHOR: Takeuchi H; Matsuo T; Tokuyama K; Suzuki M
 CORPORATE SOURCE: Research Laboratory of The Nisshin Oil Mills, Ltd.,
 Yokohama, Japan.
 SOURCE: Journal of nutrition, (1995 Sep) 125 (9) 2364-9.
 Journal code: 0404243. ISSN: 0022-3166.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199510
 ENTRY DATE: Entered STN: 19951020
 Last Updated on STN: 19951020
 Entered Medline: 19951010

AB It has been shown previously that **dietary** fat type influences body fat accumulation in rats. The effects of **dietary** fat type on serum thyroid hormone, activity of Na⁺,K⁺-ATPase and lipoprotein **lipase** were studied. Rats were fed an experimental **diet** containing lard, high oleic safflower oil, safflower oil or **linseed oil** for 12 wk. Carcass fat content was significantly higher in rats fed the lard **diet** than in those fed the other **diets**. However, intra-abdominal adipose tissue weights were not affected by type of **dietary** fat. The serum triiodothyronine concentration and the activity of Na⁺,K⁺-ATPase in the liver and skeletal muscle were significantly lower in the lard **diet** group than in the other **diet** groups. The lipoprotein **lipase** activity of abdominal subcutaneous fat was significantly higher in rats fed the lard **diet** than in rats fed the other **diets**, but the activity of lipoprotein **lipase** in intra-abdominal fat was not significantly different. These results suggest that the intake of lard, compared with the intake of the vegetable oils, may decrease Na⁺,K⁺-ATPase activity in the liver and skeletal muscle by lowering serum triiodothyronine concentration, resulting in the promotion of body fat accumulation.

L13 ANSWER 14 OF 17 JICST-EPlus COPYRIGHT 2004 JST on STN

ACCESSION NUMBER: 950517101 JICST-EPlus
 TITLE: Development of **Diet** with **Linseed Oil** Calcium Soap by Laying Hens and Effect of Poultry Egg Production.
 AUTHOR: KOJIMA YUJI; ONO HARUMI; TSURUSAKI MASANOBU
 ISHIDA SHUZO; NAKAMURA TOSHIHIRO
 CORPORATE SOURCE: Fukuoka Agric. Res. Cent.
 Taiyoyushi
 SOURCE: Fukuokaken Nogyo Sogo Shikenjo Kenkyu Hokoku (Bulletin of the Fukuoka Agricultural Research Center), (1995) no. 14, pp. 186-189. Journal Code: Y0232B (Fig. 2, Tbl. 7, Ref. 17)
 ISSN: 1341-4593
 PUB. COUNTRY: Japan
 DOCUMENT TYPE: Journal; Article
 LANGUAGE: Japanese
 STATUS: New

AB This experiment was conducted with laying hens to assess the effect of calcium soaps, which newly developed to saponify fatty acids from **linseed oil** (CSLS). 208 laying White Leghorn were assigned to 4 levels experimental **diets** containing 0, 2.5, 5.0 and 7.5% CSLS. During saponification of **linseed oil** with **lipase** and calcium hydroxide, addition of 5% browning molasses CSLS was found to be antioxidized. Chemical composition of crude protein, ether extract and ash contents, and gross energy (GE), metabolizable energy (ME) and ME/GE ratio in CSLS were 0.6, 83.7 and 15.1%, and 6,861,

5,907kcal/kg and 86.1%, respectively. Egg production was increased containing 2.5% CSLS **diet** in comparison with deit levels. It was concluded that most optimal level was commercial formula **diet** containing 2.5% CSLS. (author abst.)

L13 ANSWER 15 OF 17 MEDLINE on STN DUPLICATE 8
 ACCESSION NUMBER: 94068624 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 8248271
 TITLE: **Dietary** sunflower, linseed and fish oils affect phospholipid fatty acid composition, development of cardiac lesions, **phospholipase** activity and eicosanoid production in Atlantic salmon (*Salmo salar*).
 AUTHOR: Bell J G; Dick J R; McVicar A H; Sargent J R; Thompson K D
 CORPORATE SOURCE: NERC Unit of Aquatic Biochemistry, School of Natural Sciences, University of Stirling, Scotland, UK.
 SOURCE: Prostaglandins, leukotrienes, and essential fatty acids, (1993 Sep) 49 (3) 665-73.
 Journal code: 8802730. ISSN: 0952-3278.
 PUB. COUNTRY: SCOTLAND: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199401
 ENTRY DATE: Entered STN: 19940201
 Last Updated on STN: 19940201
 Entered Medline: 19940104

AB Atlantic salmon (*Salmo salar*) post-smolts were fed practical-type **diets** in which the lipid was supplied either as fish oil (FO), sunflower oil (SFO) or **linseed oil** (LO) for 12 weeks. In general, the heart phospholipids from SFO-fed fish had increased 18:2n-6, 20:2n-6, 20:3n-6 and 20:4n-6 but decreased 20:5n-3 compared to both other **dietary** treatments. This was reflected in a decreased n-3/n-6 polyunsaturated fatty acid (PUFA) ratio and an increased 20:4n-6/20:5n-3 or eicosanoid precursor ratio in SFO-fed fish. While heart phospholipids of fish fed LO had increased levels of 18:2n-6, 20:2n-6 and 20:3n-6 compared to fish fed FO, 20:4n-6 levels were reduced, although only significantly in phosphatidylcholine (PC). **Dietary** -induced changes in phospholipid fatty acid compositions of blood leucocytes were similar to those in heart, although fish fed LO had increased 20:5n-3 compared to fish fed FO. Thromboxane B2 (TXB2) produced by stimulated blood cells was reduced in fish fed LO compared to those fed SFO. Prostaglandin E2 (PGE2) production was reduced in LO-fed fish compared to both other **dietary** treatments. Fish fed LO had reduced PC in heart membranes compared to the other two **dietary** treatments, resulting in a ratio of PC:PE (phosphatidylethanolamine) less than unity. Fish fed SFO developed a marked cardiac histopathology which, while present in FO-fed fish albeit in a less severe form, was virtually absent in fish fed LO. Fish fed SFO had increased heart **phospholipase** A activity compared to those given either FO or LO.

L13 ANSWER 16 OF 17 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
 on STN
 ACCESSION NUMBER: 88113568 EMBASE
 DOCUMENT NUMBER: 1988113568
 TITLE: Human absorption of fish oil fatty acids as triacylglycerols, free acids, or ethyl esters.
 AUTHOR: Lawson L.D.; Hughes B.G.
 CORPORATE SOURCE: Murdock Pharmaceuticals, Springville, UT 84663, United States
 SOURCE: Biochemical and Biophysical Research Communications, (1988) 152/1 (328-335).
 ISSN: 0006-291X CODEN: BBRCA

COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The transient rise in plasma triacylglycerol fatty acids after single-dose ingestion of fish oil as triacylglycerols, free acids, or ethyl esters with **linseed oil** as an absorption standard was used to determine the relative absorption of fish oil fatty acids in eight men. As free acids, the fish oil fatty acids were well absorbed ($\geq 95\%$). As triacylglycerols, eicosapentaenoic acid (1.00 g) and docosahexaenoic acid (0.67 g) were absorbed only 68% and 57% as well as the free acids. The ethyl esters were absorbed only 20% and 21% as well as the free acids. The incomplete absorption of eicosapentaenoic and docosahexaenoic acids from fish oil triacylglycerols correlates well with known in vitro pancreatic **lipase** activity.

L13 ANSWER 17 OF 17 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 88274587 MEDLINE
DOCUMENT NUMBER: PubMed ID: 3292727
TITLE: Effects of various combinations of omega 3 and omega 6 polyunsaturated fats with saturated fat on serum lipid levels and eicosanoid production in rats.
AUTHOR: Lee J H; Sugano M; Ide T
CORPORATE SOURCE: Laboratory of Nutrition Chemistry, Kyushu University School of Agriculture, Fukuoka, Japan.
SOURCE: Journal of nutritional science and vitaminology, (1988 Feb) 34 (1) 117-29.
Journal code: 0402640. ISSN: 0301-4800.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198808
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19880819

AB The effects of varying the ratio of polyunsaturated/saturated fatty acids (P/S) and omega 3/omega 6 polyunsaturated fatty acids (PUFA) of **dietary** fats on lipid metabolism were studied in rats using safflower oil (SFO), **linseed oil** (LSO), palm oil (PLO), and a 1:1 combination of these oils. The hypocholesterolemic and hypotriglyceridemic effects depended on the P/S ratio of **dietary** fats, LSO (omega 3 PUFA) being more effective than SFO (omega 6 PUFA). A similar pattern of the response was observed on liver cholesterol and triglyceride. The liver cholesterol-lowering effect of LSO, but not SFO, remained even when they were combined with PLO. The activity of liver delta 6-desaturase tended to be higher while that of liver **phospholipase** A2 was significantly lower in the LSO group than in the SFO or PLO groups. The aortic PGI2 production and the production by platelets of thromboxane A2 were significantly low in rats fed LSO accompanying a distinct reduction of arachidonate in tissue phospholipids. The depressing effect of LSO disappeared when it was combined with SFO but not with PLO. There were no significant differences in enzyme activities and eicosanoid production between SFO and PLO in spite of a large difference in their P/S ratio. Thus, lipid parameters examined were complicatedly regulated by the ratios of omega 3/omega 6 as well as P/S, suggesting an existence of an appropriate ratio for these variables.

=> d ibib abs ind l3 1-6

L3 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:100554 HCAPLUS
DOCUMENT NUMBER: 140:127521
TITLE: Sweetener containing fructose, lo han, and inulin
INVENTOR(S): **Watson, Tommy Stanley; Watson, Brenda F.**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 2 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004022913	A1	20040205	US 2002-210439	20020801

PRIORITY APPLN. INFO.: US 2002-210439 20020801

AB Fructose, lo han kuo fruit extract (lo han), and inulin are used to formulate a natural sweetener. Thus, the sweetener may contain 95% fructose, 3% lo han, and 2% inulin.

IC ICM A23L001-236
NCL 426548000
CC 17-6 (Food and Feed Chemistry)
ST sweetener fructose inulin lo han
IT Momordica grosvenori
Sweetening agents
(sweetener containing fructose, lo han, and inulin)

IT 57-48-7, Fructose, biological studies 9005-80-5, Inulin
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(sweetener containing fructose, lo han, and inulin)

L3 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:526088 HCAPLUS
TITLE: Herbal formulation
INVENTOR(S): **Watson, Tommy Stanley; Watson, Brenda F.**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003129260	A1	20030710	US 2002-41314	20020108
US 6613362	B2	20030902		

PRIORITY APPLN. INFO.: US 2002-41314 20020108

AB An herbal formulation comprises: slippery elm bark; German chamomile flower; fenugreek seed; fennel seed; skullcap herb; cranberry fruit; peppermint leaf; a mixture of Chinese herbs, comprising atractylodes root, capillary artemisia herb, codonopsis root, Job's tears seed, schisandra fruit, agastache whole plant, Chinese licorice root, Chinese thoroughwax, ginger root, Korean ash branches bark, magnolia bark, phellodendron bark, poria cocos root, psyllium seed, Chinese goldthread, Chinese white peony root, costus root, silver root, tangerine peel, and angelica root; and methylsulfonylmethane.

IC ICM A61K035-78

NCL 424732000; 424725000; 424747000; 424757000; 424756000; 424771000;
424736000

L3 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:511867 HCAPLUS
DOCUMENT NUMBER: 139:35641
TITLE: Food supplement containing flaxseed oil and lipase
INVENTOR(S): **Watson, Tommy Stanley; Watson, Brenda F.**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 2 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003124240	A1	20030703	US 2001-34551	20011228
PRIORITY APPLN. INFO.:			US 2001-34551	20011228
AB	A food supplement formulation containing ω -3 fatty acids consists of flaxseed oil plus lipase. Thus, the formulation may include 99.5% flaxseed oil and 0.5% lipase.			
IC	ICM A23D007-00			
NCL	426601000			
CC	17-9 (Food and Feed Chemistry) Section cross-reference(s): 18			
ST	food supplement flaxseed oil lipase			
IT	Linseed oil RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (food supplement containing flaxseed oil and lipase)			
IT	Fatty acids, biological studies RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (polyunsatd., n-3; food supplement containing flaxseed oil and lipase)			
IT	Diet (supplements; food supplement containing flaxseed oil and lipase)			
IT	9001-62-1, Lipase RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses) (food supplement containing flaxseed oil and lipase)			

L3 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:305522 HCAPLUS
TITLE: Herbal intestinal tract cleanser
INVENTOR(S): **Watson, Tommy Stanley; Watson, Brenda F.**
PATENT ASSIGNEE(S): Renew Life Formulas, Inc., USA
SOURCE: U.S.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6551628	B1	20030422	US 2001-997360	20011130
PRIORITY APPLN. INFO.:			US 2001-997360	20011130
AB	An herbal formulation comprises a liquid component and a solid component. The liquid component comprises oregano leaf, orange peel, Oregon grape root, pau d' arco, cinnamon bark, clove bud, and peppermint leaf. The solid component comprises uva ursi, garlic bulb, magnesium caprylate,			

citricidal extract, pau d' arco, calcium undecylenate, barberry root, neem leaf, olive leaf, and berberine sulphate.

IC ICM A61K035-78

NCL 424725000; 424732000; 424736000; 424739000; 424745000; 424747000;
424754000; 424761000; 424773000; 424774000

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:808345 HCAPLUS

DOCUMENT NUMBER: 137:278269

TITLE: Probiotic formulation containing bacteria,
fructooligosaccharides, glutamine, and
acetylglucosamine

INVENTOR(S): **Watson, Tommy Stanley; Watson, Brenda
F.**

PATENT ASSIGNEE(S): Renew Life, Inc., USA

SOURCE: U.S., 3 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6468525	B1	20021022	US 1999-371335	19990810
PRIORITY APPLN. INFO.:			US 1999-371335	19990810
AB	A probiotic formulation, useful as a food supplement and a material for reestablishing beneficial bacteria to the body's intestinal tract, comprises a mixture of beneficial probiotic microflora comprising Lactobacillus acidophilus, Bifidobacterium bifidum, Lactobacillus salivarius, Bifidobacterium infantis, and Bifidobacterium longum, fructooligosaccharides, L-glutamine, and N-acetylglucosamine. Thus, a formulation may contain 10-50% probiotic bacteria, 10-50% fructooligosaccharides, 15-50% L-glutamine, and 5-20% N-acetylglucosamine.			
IC	ICM C12N001-20			
NCL	424093300			
CC	17-14 (Food and Feed Chemistry) Section cross-reference(s): 63			
ST	probiotic bacteria fructooligosaccharide glutamine acetylglucosamine			
IT	Bifidobacterium bifidum Bifidobacterium infantis Bifidobacterium longum Lactobacillus acidophilus Lactobacillus salivarius (probiotic formulation containing bacteria, fructooligosaccharides, glutamine, and acetylglucosamine)			
IT	Fructooligosaccharides RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (probiotic formulation containing bacteria, fructooligosaccharides, glutamine, and acetylglucosamine)			
IT	Intestinal bacteria (probiotic; probiotic formulation containing bacteria, fructooligosaccharides, glutamine, and acetylglucosamine)			
IT	Diet (supplements; probiotic formulation containing bacteria, fructooligosaccharides, glutamine, and acetylglucosamine)			
IT	56-85-9, L-Glutamine, biological studies 7512-17-6, N-Acetylglucosamine RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)			

(probiotic formulation containing bacteria, fructooligosaccharides, glutamine, and acetylglucosamine)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:570645 HCAPLUS

DOCUMENT NUMBER: 137:129879

TITLE: Herbal formulation containing enzymes for rebuilding intestinal bacteria

INVENTOR(S): Terry, Travis L.; Watson, Tommy Stanley; Watson, Brenda F.

PATENT ASSIGNEE(S): Renew Life, Inc., USA

SOURCE: U.S., 3 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6426099	B1	20020730	US 1998-204036	19981201
PRIORITY APPLN. INFO.:			US 1997-67271P	P 19971203
AB	An herbal formulation useful as a food supplement for re-establishing intestinal bacteria and rebuilding intestinal mucosa comprises 25-35% betaine HCl, 2-7% plant enzymes, 1-4% papain, 0.5-5% probiotic micro flora, 2-7% fructooligosaccharides, 5-15% L-glutamine, 2-7% quercitin, 2-7% butyric acid, 5-15% borage seed, 5-15% flax seed, 5-10% lecithin, and 5-15% of a mixture containing γ -oryzanol, bromelain, pepsin, and N-acetylglucosamine. The formulation may be mixed together, compressed and formed into a capsule for oral administration.			
IC	ICM A61K035-78 ICS A61K038-54			
NCL	424768000			
CC	63-6 (Pharmaceuticals) Section cross-reference(s): 18			
ST	plant enzyme probiotic capsule intestine bacteria mucosa; dietary supplement plant enzyme probiotic bacteria			
IT	Eubacteria (acidophilic, probiotic; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)			
IT	Drug delivery systems (capsules; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)			
IT	Flaxseed (herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)			
IT	Fructooligosaccharides Lecithins RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)			
IT	Intestine (mucosa; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)			
IT	Enzymes, biological studies RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (plant; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)			
IT	Bifidobacterium Intestinal bacteria			

(probiotic; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)

IT Borago officinalis
(seeds; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)

IT Diet
(supplements; herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)

IT 56-85-9, L-Glutamine, biological studies 107-92-6, Butyric acid, biological studies 117-39-5, Quercitin 590-46-5, Betaine hydrochloride 7512-17-6, N-Acetylglucosamine 9001-73-4, Papain 9001-75-6, Pepsin 11042-64-1, γ -Oryzanol 150977-36-9, Bromelain

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(herbal formulation containing plant enzymes and probiotic bacteria for rebuilding intestinal bacteria and mucosa)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT